

**REPUBLIC OF RWANDA**



**MINISTRY OF LANDS, ENVIRONMENT  
FORESTRY, WATER AND MINES**

**PUBLIC EXPENDITURE REVIEW: WATER AND SANITATION SECTOR**

**APRIL 2006**

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**Table 1: ABBREVIATIONS**

<b>ADB</b>	African Development Bank
<b>CDC</b>	Community Development Committee
<b>ELECTROGAZ</b>	Society in charge of Production and Distribution of Electricity and Water
<b>FAO</b>	Food and Agriculture Organization
<b>FrW</b>	Franc Rwandese
<b>MDG</b>	Millennium Development Goals
<b>MINAGRI</b>	Ministry of Agricultural and livestock
<b>MINALOC</b>	Ministry of local Administration, Social Affaires and Rural Development
<b>MINECOFIN</b>	Ministry of Finance and Economic Planning
<b>MINISANTE</b>	Ministry of health
<b>MINITERE</b>	Ministry of Lands, Environment, Forestry, Water and Mines
<b>NGO</b>	Non Governmental Organization
<b>PRSP</b>	Poverty Reduction Strategy Paper
<b>SWAP</b>	Sector Wide Approach
<b>UNDP</b>	United Nations Development Program
<b>UNICEF</b>	United Nations Children's Fund
<b>USD</b>	United States Dollar
<b>UW</b>	Urban Water supply
<b>USAN</b>	Urban Sanitation
<b>RW</b>	Rural Water supply
<b>RSAN</b>	Rural Sanitation
<b>WB</b>	World Bank
<b>WSS</b>	Water Supply and Sanitation

## **ACKNOWLEDGEMENTS**

This assessment of resource flows in water and sanitation sector in Rwanda has been carried out to support the implementation of the on going EDPRS policy carried out by the Government of Rwanda. It focuses on institutional and financial mapping based on available information. The study we hope will contribute to the development of a financing strategy and scaling up investment in the water and sanitation sector to attain MDG's target

In the preparation of this work I benefited greatly from the insights and information provided by colleagues from water and sanitation unit, MINITERE. Feedback on the draft report was provided and many thanks to Ahamdou SIDI, Mwanafunzi BRUNO, world bank, water and sanitation specialist, ANITA from RURA for their contribution to the success of the report. I would like to extend my appreciation to water and sanitation project (WSP-AF) group for their feedback to the report particularly Jean Doyen's inputs and advise greatly helped to accomplish this assignment.

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# **EXECUTIVE SUMMARY**

## **1. Introduction**

As recognised in the United Nations Millennium Declaration and at the Johannesburg Summit, the provision of adequate water supply and sanitation services, has a more direct effect on human health and welfare than the provision of any other infrastructure services and contributes directly to the well being of the poorest society. Despite, this direct impact to poverty alleviation, the water and sanitation sector have been neglected in terms of allocation in comparison to key sectors of education and health in Rwanda. The purpose of this work is to have a more comprehensive understanding of the financial resource flows for improved integration in the MTEF budget process and also the on-going policy framework of the economic development poverty reduction strategy (EDPRS).

The study also examines roles and responsibilities of the players in the water and sanitation resource management, in depth understanding of the level and adequacy of funding from different sources and channels. To this effect, the study considers institutional mapping and framework of all service providers in the sector with financial mapping to comprehend allocations and actual expenditures at all levels within the sector. The study also analyses the existing and the emerging financing mechanism within the sector. Assessment of the current performance of the sector in both urban and rural areas and recommends measures for improvement.

In regard to decentralisation policy the study tackles how the process have been integrated in the sector, with the objective of empowering community development committees in participatory approach to manage water and sanitation infrastructure and also as a means to improve efficiency and effective channelling of funds and implementation in the sector

Finally, the report gives a picture and analysis based on the existing available resources, the projections of the requirements that the sector needs for the sustainability of the infrastructure in the sector.

## **2. Key study findings**

The above-mentioned issues are critical given the lower coverage rate of water and sanitation to meet MDG's targets. According to the data provided by MINITERE, 69% of the urban population have access to potable water while 55% of the rural population are served. Sanitation, 8% of the urban population is having access to latrines and good sanitary condition with 10% in rural areas.

Based on data (refer to table 5), total amount disbursed to the sector from 2003 to 2005 were 32,462 billion RwF an equal vent of an estimated amount of 584,900,900 million USD. In 2005 of what were disbursed, 58% was from donor agencies through external financing of projects and a big portion of the projects are being implemented in the rural areas (refer to table 8). The physical impact realised between the periods 2003 to 2005 were the rehabilitation of 25 water systems, 35 AEP systems were built, and 1800 water sources managed, the construction of 120 water reservoirs, construction of 59 forages and 600 public latrines. The total coverage rate also increased progressively in line with improved investment into the sector. About 1,060,700 additional persons were served from these investments.

Despite the fact that the sector still suffers from a weak sector monitoring and evaluation system especially with decentralised transfer processes of responsibilities to the rural water supply systems to districts, various initiatives are already in place:

- a) Periodic evaluation of the performance of water and sanitation projects is effected and synthesised by water and sanitation department;

- b) Annual publication of the existing water and sanitation infrastructures;
- c) M&E working sector group in place for coordination and harmonisation of operations within the sector. The water sector also has well established policies for water that derive from 1987 Presidential decree that set out principles for the ownership and management of rural water supply facilities and which are currently revised and updated into water resource management code to be out soon which will represent a sound basis for sector development.

The sector has drawn up a clear decentralisation framework with clear decentralisation responsibilities (refer to table 4) and to date, different service providers have channelled funds to the sector of about 33% of the sector budget to finance water and sanitation programs through the existing financing mechanism like CDF, HIMO and UBEDEHE

Unfortunately, sanitation progress is not matched with the progress in water supply, this is evident in little information on sanitation and sanitation code that is non-existent, therefore, MINTERE needs to identify at both central and decentralised levels sanitation infrastructure needs to be maintained and managed and how these should be financed. Streamline coordination with MINSANTE to develop strategies for sanitation sub sector.



# 1 BACKGROUND AND CONTEXT

Rwanda is located in the Great Lakes Region and covers an area of 26, 338 Km<sup>2</sup>, the country possess water in abundance (lakes, rivers and swamps), the coverage of 8% of the national territory which represents about 211,000 hectares. Rwanda is gifted with good rainfall patterns that is adequate for community water supply to have the potential to function effectively. Annual rainfall varies from 1200 to 1400mm in the east, lakes cover an area of 128,190hectares, and rivers occupy an area of 7, 270 hectares. Rwanda has 22, 300 natural springs that feed into rivers and lakes. The country is divided by water divide line called the Congo- Nile Ridge. The Congo River basin to the west covers 33% of the territory and drains 10% of the water. The Nile River basin lies to the east covering an area of 67% of the territory and drains 90% of the surface water. Despite the fact that the country possesses abundant water she only uses 12.22% of the available resources. <sup>1</sup>

Water supply in urban areas is provided by ELECTROGAZ, which was established in 1976 with monopoly rights to produce and distribute drinking water on commercial basis<sup>2</sup>. ELECTROGAZ under the supervision of ministry of infrastructure is a public utility existing by statutory order No: 118/78. The utility also manages water supply in Kigali City. Surface water provides a daily supply of 22,000m<sup>3</sup> of water; ground water provides 3 500m<sup>3</sup> and natural water sources 2050m<sup>3</sup>. Due to the dilapidated infrastructure, technical losses are put at 30% on distribution network, which reduce the quantity distributed and supplied.

However today, nationally piped water supplied to the urban population stand to about 69% of the urban population. Some urban consumers are connected directly to ELECTROGAZ distribution network whilst others access water from public stand pipes.

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<sup>1</sup> National rural water supply and sanitation programme, 2004

<sup>2</sup> Ibid

ELECTROGAZ is among the badly performing public utility in Sub-Saharan Africa. The old infrastructure that account for big technical and financial loss of 30% in 2005 mainly due to failure to meter/bill consumption because of illegal connections and lack of appropriate database system and customer management

The lifting of its monopoly in water production and distribution should be seen as a contributing factor to improve the performance of the sector by encouraging private sector participation investment and new operators<sup>3</sup>. The principal means through which the government can achieve is the potable water sub-sector

Sanitation facilities are few in the urban areas and almost nonexistent in the rural areas. In the cities, sewage collection and treatment plants are limited and do not have adequate sanitation systems. There are inadequate facilities for the disposal of the contents of latrines and septic tanks and little provision of wastewater and storm water drainage system; most part of industrial wastewater is dumped unprocessed into rivers and other drainage system. Need to mention that large institutions like schools, hospitals, hotels and prisons have their own sewage treatment plant but to a large extent are not supervised by the authorities' responsibility.

The majority of public places in the rural areas like markets, prisons, hospitals and schools also lack adequate sanitation facilities, which cause overcrowding hence a threat and provocation of various diseases likely to affect the health of people. The relationship between health and access to potable water and sanitation is a complex one, lack of potable water and poor sanitation facilities can be an important contributory factor to poor health outcomes, water-born diseases account for infant and child mortality in Rwanda.

Currently, there is insufficient data collected on sanitation but the situation is still at 85% of the population having traditional household sanitation facilities and 8% of those are considered as hygienic. The government objective is to improve

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<sup>3</sup> Ibid

sanitation facilities, which must be in line with the capacity of increasing population. For example, district mayors signed performance contracts with the government and the coverage will be expected to expand to 100% in future.

## 1.1 Population

Rwanda has an estimated population of 8,162,715 people. Annual population growth rate of 3%.<sup>4</sup> The country is among the most populated countries in Africa and its density is estimated at 306 inhabitants per square kilometre..

**Table 2 : Population trends 1997-2020**

Age bracket	1997	2002	2007	2012	2017	2020
00-04	1177	1456	1529	1519	1694	1889
05-09	1121	1110	1384	1462	1630	1818
10-15	611	1102	1093	1365	1522	1697
15-19	474	1052	1082	1077	1201	1338
20-24	445	865	1027	1059	1181	1317
25-64	2044	2340	2951	3693	4117	4590
65+	248	238	234	245	272	305
<b>Total</b>	<b>6120</b>	<b>8163</b>	<b>9300</b>	<b>10420</b>	<b>11617</b>	<b>12954</b>

Source: 3<sup>rd</sup> General census of population and housing 2002: ONAPO, SEDS, 1996

Most of the population of Rwanda resides in rural areas (83.1), her urban population has experienced, between 1991 and 2002, a very high growth rates from 5.5% to 16.9% of its population<sup>5</sup>. According to the table above, age bracket of 25-64 accounts for high population growth rates. The rural population account for 83.1% while urban is 16.9% however; the Rwandan economy largely depends on the rural sector, which is dominated by agriculture. According to Rwanda development indicators (2004), agriculture constitutes on average 44% of Gross domestic product and accounts for more than 80% of its export earnings.

Rwanda is endowed with abundant water resources but the facilities and systems to ensure access to safe water are insufficiently developed and the rate of access in the country is estimated at 69% in the urban and peri-urban areas while 55% in the rural area in 2005.

<sup>4</sup> 3rd General census of population and housing 2002

<sup>5</sup> Rwanda Development Indicators, 2004

## 1.2 Population Coverage

Based on available information, the table shows coverage rates by 2005.

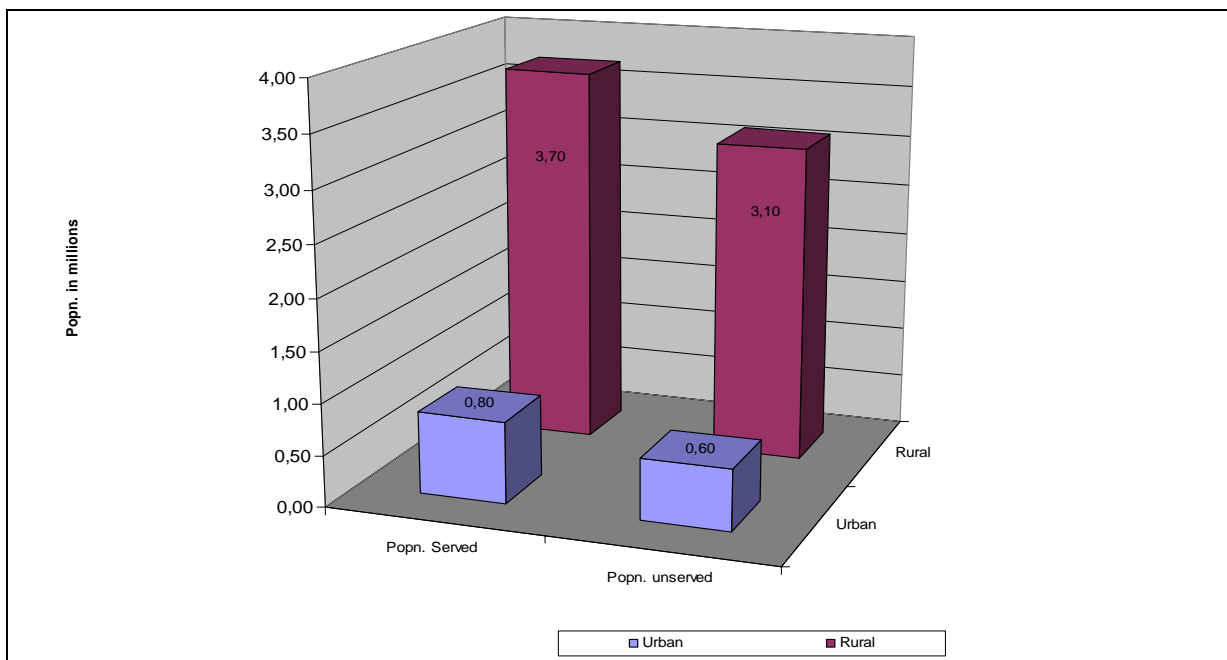
**Table 3: Served/Un-served population in 2005**

Geographical distribution	Pop.census 2002	Popn.served	Popn. Unserved	% of the popn.served
Urban	1,4	0,8	0,6	69%
Rural	6,8	3,7	2,4	55%
<b>Total</b>	<b>8,2</b>	<b>4,5</b>	<b>3,7</b>	<b>57%</b>

Source: water and sanitation department/MINETERE

Currently, access to potable water in urban and peri-urban areas is 69% whilst 55% of the rural populations are served. In regard, to sanitation, 8% of the urban population is having access to latrines and good sanitary condition with 10% in rural areas. There is still a long way to go since 31% of the people do not have access to potable water in the urban areas and 45% in rural areas; therefore the sector needs to check the problem by sustainable planning especially that the population continues to grow. This situation is further explained in the chart below indicating the comparison of served against un served population in million persons.

**Chart 1 : Served/Un-served population in million persons 2005**



## **2 ORGANISATIONAL AND LEGAL FRAMEWORK OF THE SECTOR**

1. The WSS is under the Ministry of lands, Environment, Forestry, Water and Mines. (MINTERE) which is responsible in the development and formulation of policies concerning the sector. The department of water and sanitation in MINTERE is assigned with the following duties;
  - a) To organise the activities of the sector;
  - b) Planning and implementation of water and sanitation projects,
  - c) Carrying out of inventory of the existing water and sanitation infrastructure,
  - d) Implementation of government policies related to the sector.
2. The Ministry of Agriculture, Animal Husbandry and Forestry (MINAGRI) is responsible to manage and coordinate rural engineering and marshlands as well as their catchments areas.
3. The Ministry of Health (MINISANTE) is responsible to put in place codification of health standards in the area of sanitation and at the same time ensure compliance.
4. The Ministry of local Government and Social Welfare participates in the sector through the Common Development Fund (CDF), UBEDEHE, and HIMO in financing and management of water and supply projects in the rural areas.
5. The Ministry of Finance and Economic Planning (MINICOFIN) participates in the determination of water tariffs, financing of sectoral investment and the supervision and institutional reform of Electrogaz<sup>6</sup>

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<sup>6</sup> National Rural Water Supply and Sanitation Programme

6. At decentralised level, water infrastructure belongs to the districts which delegate its management to authorised water users associations or private professional operators and in situations where a water supply line covers more than one district, management structures in the form of inter-municipal bodies have been set up. These are known as water point communities' often involving women.

Legally, there are well established policies for water especially in the rural areas that derive from the 1987 presidential decrees, which have established the principles of a decentralised (communal) ownership and responsibility of water supply facilities and systems; and also established the possibility of management through communal organisation (regies communales or intercommunales), water users association (regie associatives) and private operators.

However, the process of revising existing laws in order to collect, regroup and update all the issues pertaining to water in one law (water code) is pending parliament approval which will represent a sound basis for sector development.

The Rwanda Utilities Regulation Agency was established in 2001 by Law No: 39/2001 of 15 October 2001, its main attributions are to ensure that:

- i. Public services are provided according to the required standards;
- ii. Public service are financially viable;
- iii. Good competitive conditions are maintained and investments in the sector are facilitated;
- iv. Consumers are protected from abuses of monopoly power.

The organisation of the sector needs to be more coherent and coordinated in order to address the following challenges; to complete the reform of ELECTROGAZ, to finalise the water code, review and enact the sanitation code and define the specific mandate and organisation of the Rural Supply Implementation Agency.

### **3 VISION AND POLICIES FOR THE SECTOR**

#### **3.1 Vision 2020**

The vision 2020 clearly states that the entire population will have access to clean drinking water and sanitation. The document underlines that there will be sustainable water resource management and water collection, conservation, water utilization for economic development and protection, maintenance of water and sanitation infrastructure. In order to attain Vision 2020 objective for the water sector the government will have to increase the rate of access to potable water by 2.5 percentage points per year from the current rate of 57% to ultimately cover all Rwandan population with drinkable water by 2020.

#### **3.2 Millennium Development Goals**

For water and sanitation, the United Nations has adopted for this millennium the following action plans<sup>7</sup>:

- Reduce the population margin that has no sustainable access to drinking water by 2015;
- Develop water resources management frameworks;
- Increase the production benefits by water in irrigation systems for food security, suppression of the pressure on environment, promotion of the possibility to use water in other productive sectors;
- Safeguard human lives by ensuring acceptable drinking water quality;
- Mobilize the financing of national resources investment needs in the water sector;
- Reinforce the institutions and techniques of the country in order to implement integrated water resources management policies;
- Protect the surface water quality and groundwater as well as the aquatic ecosystems and coastal regions.

Rwanda committed itself to reducing by half the percentage of the population that has no sustainable access to drinking water supply and sanitation by 2015.

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<sup>7</sup> Ibid

### **3.3 Poverty Reduction Strategy Paper (PRSP)**

Water and sanitation is paramount for the reduction of poverty. The PRSP also underscores the importance of the sector with the following advantages<sup>8</sup>: increase productivity because of good health, reduction of water related diseases like diarrhea, reduction of time spent fetching water by the population, positive impact on maternal and children's health improvement finally enrolment of girls for schooling.

The sector is envisaged to accomplish the following major objectives notably:

- i. To improve water supply system,
- ii. Encourage the management of water supply infrastructure by communities,
- iii. Increase access to the sanitation services
- iv. Reinforcement of capacity building at all levels.

### **3.4 National Investment Strategy**

The national investment strategy document encourages the private sector and implementation of water supply systems in rural and urban areas at affordable costs for the consumers. The state will continue to play a leading role in the development of the water sector through the provision of the necessary infrastructure. The role of the private sector was limited to construction and provision of the construction material for public tender. The policy encourages private participation in the mobilization of investment, development and management of drinking water and sanitation infrastructures. The promotional mechanisms will be put into place. Local financing initiatives of activities in rural areas will be sustained.

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<sup>8</sup> PRSP: Poverty Reduction Strategy Paper



So far private sector participation exist in the sector for example the Ngenda PSP that operate in the south of Rwanda serve 30% of potential consumers (at RwF 14 per 20liter jerry can) average consumption of 4 to 5 liters per person per day contrary to a quoted standard of 20 liters per person per day.

The water and sanitation sector have robust framework for water supply services, clear and challenging targets, high level of commitment, institutional framework in translation but there is need to organize and streamline the implementation capacity of the rural water supply agency, there is also need for coherent policy framework strategy for sanitation and continued strengthening of coordination mechanisms that are in place.

## **4 RATIONALE, OBJECTIVES AND METHODOLOGY**

The rationale of the resource flow assessment for water and sanitation sector in Rwanda has been carried out as part of the regional finance activities of water and sanitation program, Africa. The justification of the study is to develop a better understanding of the water and sanitation sector finances to develop sector wide financing strategies and incorporation of the WSS into the EDPRS and MTEFs which is also essential to develop more meaningful country level action plans for the attainment of the MDG's targets for the sector. There is also complex institutional arrangement and always lack of clarity and comprehensive understanding of variety of channels and sources of funds that are used in the sector. It also enables the development of comprehensive and countrywide estimates and analysis of sector finance within the institutional context of the sector

### **4.1 Objectives and Approach**

The approach of the study is the following:

- 1) Mapping all existing institutions to clearly know how the sector is organized and coordinated, internalize respective roles and responsibilities in the sector;
- 2) Mapping the existing financing arrangement, to assess resource flow contribution to the sector through different channels and sources, financing rules and mechanisms that influence the sector;
- 3) To assess allocation efficiency of resources by linking actual expenses to performance within the sector;
- 4) To feed the result to the new approach of economic development for poverty reduction strategy (EDPRS).

Specifically, the objectives of the study are:

- 1) To align allocation to policies and strategies within the sector;
- 2) To monitor realization and results within the sector;
- 3) To evaluate efficiency (value for money) within the sector;
- 4) To provide overview and progress on performance targets;
- 5) To identify problems, lags and weaknesses within the sector.

## **4.2 Methodology**

The study is based on available information from a number of sources: government budget documents, allocations and actual expenditures from sector ministries and institutions, from local authorities, actual expenditures from ELECTROGAZ and information directly from Non-Governmental Organizations.

The report is also based on information provided through interviews with staff members of the department of water and sanitation, Project Coordinators of water and sanitation projects, meetings with World Bank Mission Specialist, views from sector presentations at the Ministry of Finance and Economic Planning. The limitation encountered is inadequate information on sanitation aspect; non-governmental organizations also provided little information.

## **5. STATUS OF WATER SUPPLY AND SANITATION**

### **5.1 Urban Water Supply**

Within the City of Kigali and other main urban centers in Rwanda, water services are currently provided by ELECTROGAZ and in August 2003, the government of Rwanda entered into a 5-year performance based management contract with a consortium led by Lahmayer International (Germany) to provide technical assistance through a management contract, which is being converted into a service contract.

Currently, the access to potable water in Kigali city and peri-urban areas is estimated at 69%. The company operates:

- 22 134 private connections
- 156 stand pipes of which 123 are functional and 33 not working.  
ELECTROGAZ is planning to refurbish 110 standpipes to improve their working conditions.

The central problem of ELECTROGAZ is the fact that its daily production capacity of 25 000m<sup>3</sup> is less than half of the demand estimated at 60 000m<sup>3</sup>. While improvement in operational efficiency will contribute to ease the problem, firm plans are underway to expand production capacity by more abduction and treatment plan along Nyabarongo River.

## 5.2 Urban Sanitation

In the sanitation sub sector, specific policy measures focused on the urban areas are not currently in evidence. There is no piped wastewater and inadequate storm water sewerage system instead there is a kind of drainage system known as “Ruhurura” in specific areas<sup>9</sup>. Nevertheless, some settlement and big premises have autonomous sewerage system on a small scale.

Industrial wastewater is also a very serious issue. There is no supervision and control level of the contamination before its disposal. According to national census 2001 is presented as follows:

- 85% of the urban people have crude health installation;
- 40% of urban families have toilets with septic tanks;
- 53% have pit latrines without water
- 7% do not have any latrines at all

Public toilets are located near the markets and taxi parks managed by private individuals and whoever visits them pays a fee of 50 RwF per service.

The solid waste collection and transportation to Nyanza dumping site for Kigali city and the city manages the plant. Some associations have started collecting and recycling solid wastes on the small scale to produce combustibles (charcoal) and plastic materials.

Nevertheless, a significant and growing proportion of the urban population therefore lacks access to adequate sanitation, reticulated service is limited to a few well-off areas, and the extent of wastewater treatment is effectively negligible.

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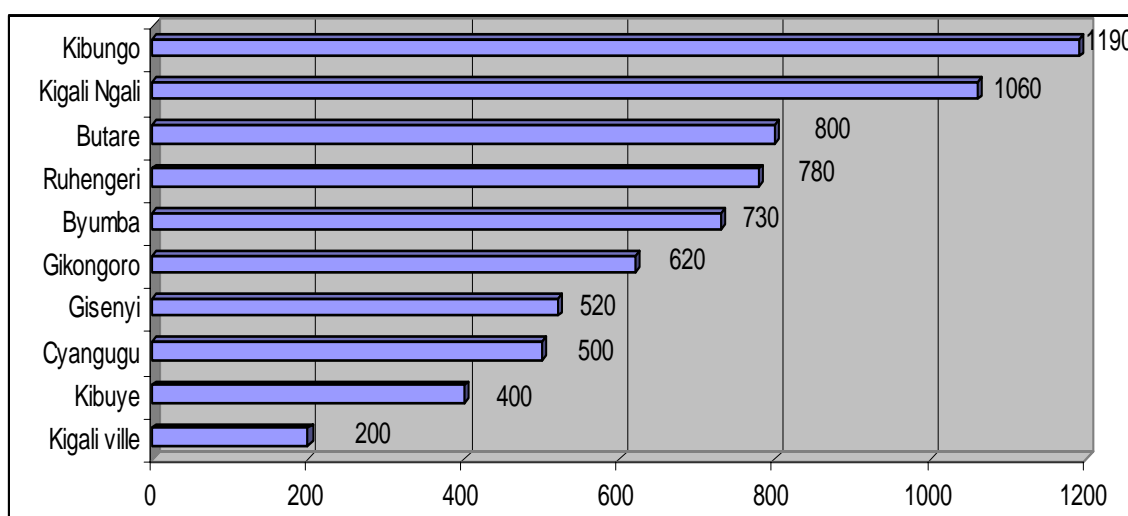
<sup>9</sup> Adapting regulation to the needs of the poor, Rwanda case study.

### 5.3 Rural Water Supply and Sanitation

The proportion of the rural population benefiting from main households supply and tap water is negligible; the entire population depends on communal sources such as wells, springs and stand pipes. Despite these safe water sources, the rural population still use or fetch water from unprotected and untested sources and this include streams, lakes and swamps for their water needs. There is need to encourage rural inhabitants to use safe sources of water for human consumption and culinary purposes. The use of unsafe water even for less important purposes like for personal hygiene and washing clothes can carry health risks and the time cost for women and children engaged in collecting and using water from more distant sources should be considered.

It is important to note that long distances that the rural people have to travel to access safe water may dissuade rural people from using potable water where it has been provided. This is clearly demonstrated by the chart below indicating the distance people travel to reach the source of water:

**Chart 2: Distance in meters to reach water point in ex-provinces**



Source: MINITERE

Chart 2, indicates the time cost that people especially women and children travel to reach water points. The standard distance to the water source is estimated at 500m this presupposes that the distance is convenient. Kigali Ville, Kibuye and Cyangugu are within that range. Therefore, water infrastructure should be increased to the ex-provinces of Kibungo and Kigali Ngali in order to reduce the long distance traveled by the rural people. The alternative for long distances is fetching water from rivers, lakes, streams and unimproved drinking sources, for instance in Kibungo 37.9% of the population uses water from these sources and is vulnerable to waterborne diseases.

The lack of public awareness of the benefits of clean water supply combined with a perception that water is not an economic good whose provision must be paid for. The price that the rural people have to pay charged at source ranges from 5 to 15 for a 20-liter-jerry and 3 is usually retained as payment for the person engaged to look after the water supply point and to recover charges.

It is estimated that 85% of the rural residents have access to some form of toilet facility and 8% have access to an adequately hygienic facility. Most of the rural public places and buildings in the rural areas such as market places, schools and prisons lack adequate sanitation facilities. The unplanned location of dwellings, often on the sides of steep slopes, typically makes the installation of shared sanitation facilities technically and financially infeasible.

There is need for key players in the sector to continue public awareness campaigns in order to build demand for safe water and also to promote public health in market places, hospitals, schools and prisons and finally to double efforts in providing water and sanitation facilities in the rural areas.

## 5 INSTITUTIONAL MAPPING

The responsibility for water and sanitation sector resides over many key players and these range from public, private sector, local entities, donor agencies and non governmental organizations.

**Table 4 : ROLES AND RESPONSIBILITIES**

INSTITUTIONS	ROLES AND RESPONSIBILITIES
Ministry of lands, Environment, Forestry, Water and Mines.	The responsibility of the central ministry is to define the overall policy of the sector through policy-making process. Funding of urban and rural water supply is by the central government using donor funds but also by NGO's using bilateral aid.
Water and sanitation department of MINITERE	The responsibilities consist of organization of activities involving the water and sanitation sector; implementation of government policies in the sector; supervision of existing infrastructure and facilities; planning and financing of water and sanitation projects and training of staff. The unit is also responsible for water resource management
ELECTROGAZ	The only company that produces and distributes electricity and water. The public utility is entrusted to produce and distribute drinking water on commercial basis. The utility operates and manages water supply in urban and semi urban areas.
Districts	Responsibility for scheme planning is held at a district level but the department of water and sanitation assists with complex schemes. Districts own water systems in the rural areas and are formally responsible for operation of all schemes but operations of simpler schemes is usually delegated to a community level.
CDF	The CDF was formed in 2002 for the purpose of financing the development projects of the districts and towns, monitoring the use of funds allocated to development projects, playing as intermediary



	role between the districts and towns, and donors financing in particular the development projects of these entities. CDF creates a favourable framework for channelling funds to the beneficiaries in the sector.
UBUDEHE	UBUDEHE is a Rwandan tradition woven around the culture of working together as a community to resolve the problems of rural dwellers. Groups of households join forces to work the fields of the entire community. The program finances water and sanitation projects in the rural areas. The program also creates a platform for IEC campaigns for hygiene education
HIMO	Labour intensive infrastructure development programme, which was adopted in 2003, has a water and sanitation component.
RURA	The agency is charged with regulating water and sanitation sector, through regulating tariff levels to prevent monopolistic exploitation by utilities and tariff structures to promote equity objectives. Monitor performance in the sector and advise government on matters pertaining to the sector, arbitrate and offer dispute resolution procedures for conflicts which may arise
NGO's	Non- Government organisations play a role of providing water and sanitation facilities in the rural areas for example AVSI, MSF Belgique, CICR, COFORWA, Rwanda Red Cross, AVSN
COMMUNITY AND INDIVIDUALS	Sanitation Provision is performed by private organisations and individuals, and also contributes as beneficiaries to the construction or set up of water and sanitation infrastructure. Under the water and sanitation program, the community funds 10% of the capital costs. NGO's led schemes typically involve similar community funding. The majority of the schemes is delegated to community committees which appoint someone to look after the facilities

## 6 SECTOR RESOURCE FLOW ANALYSIS

Within the institutions mapped in the previous section, sector institutions use a number of channels and sources of funds. This section assesses contributions in terms of resource flows to the sector, examines the existing financing rules and mechanisms within the sector, and total resource flow to the sector.

It is useful to distinguish between channels and sources of funds<sup>10</sup>; 'channels' refer to the way the funds are mobilized and allocated. This include government budgets both national and local, off-budget routes used by donors and NGOs, internal generation by utilities in this case ELECTROGAZ and other direct expenditure by communities and households while 'sources' represent contribution from donors (loans/grants). Table 5 provides allocation and expenditure trends from channels and sources of finance used by different institutions involved in the sector.

**Table 5: WSS resource flow expenditure (million, RwF) 2003-2005**

	2003		2004		2005	
	Planned	Actual	Planned	Actual	Planned	Actual
<b>Government of Rwanda- budget</b>	<b>1882</b>	<b>2676</b>	<b>2965</b>	<b>3167</b>	<b>6799</b>	<b>8357</b>
MINITERE	145	81	669	565	3246	3408
ELECTROGAZ	1716	1784	2288	2288	3396	3396
<i>Recurrent budget</i>	886	886	1809	1809	2790	2790
<i>Development budget</i>	830	898	479	479	606	606
MINAGRI	0	0	0	0	124	120
MINISANTE	21	267	8	7	7	7
MINALOC	0	544	8	307	26	1426
<i>Province</i>	0	0	0	0	26	18
CDF	0	544	0	235	0	1325
HIMO	0	0	0	72	0	83
<b>External financing</b>	<b>5422</b>	<b>2733</b>	<b>10548</b>	<b>4081</b>	<b>14988</b>	<b>11447</b>
<i>Projects</i>	5422	2477	10548	3781	14988	10737
NGO's	0	256	0	300	0	710
<b>Total resources</b>	<b>7304</b>	<b>5409</b>	<b>13513</b>	<b>7248</b>	<b>21787</b>	<b>19804</b>

Source: GoR budget, ELECTROGAZ and NGO's

<sup>10</sup> Sector finance and resource flows for water supply, A pilot application for Kenya

Table 5 provides brief highlights of the allocation and actual expenditure to the water and sanitation sector as a result of the review process. Actual disbursement into the sector increased from 2003 to 2004 but more than tripled in 2005 to 19.8 billion RwF. This is because of increased absorption capacity of water and sanitation projects. In 2005 actual expenditure for recurrent budget for MINITERE exceeded what was planned; this is composed of salaries and operations, counterpart funds and MINAGRI recurrent budget used for soil conservation, irrigation and marshland management and MINSANTE for public hygiene

The major sources of resource funding into the sector are donors. In 2005, donor actual disbursement to the sector accounted for 59% of the total resource flow to the sector. In 2001 NGO's in Kenya were the main channel of donor funds to the sector, a large proportion of 70%, NGO's in Rwanda in 2005 disbursed 7% of the total resources disbursed in the sector. This is mainly because donor funds are implemented through the national development budget.

ELECTROGAZ disbursed 17% of the total expended funds in 2005 for urban water supply from its internal generation with an exclusion of subsidies from outside source either government or donor. The funds are also channelled through decentralised entities in the country for instance ex-province, CDF, HIMO and UBUDEHE, which represents 7% of the total disbursed funds in the sector. For purposes of service delivery for the sector, these decentralised financing mechanism need to be strengthened.

## **6.1 Expenditures according to sub-program.**

The water and sanitation sector operates under four sub-programmes notably, management support, sanitation, potable water and water resource management. The table below indicates what was allocated for each sub-programme and realisation from 2003 to 2005.

**Table 6: Sector expenditure by sub-program (million RwF) 2003-2005**

	2003		2004		2005	
Sub-programme	Planned	Actual	Planned	Actual	Planned	Actual
management support	95	54	76	49	31	12
sanitation	485	536	1 779	262	2 767	1 349
potable w ater	6 589	4 795	11 082	6 902	18 456	18 167
w ater resource management	138	24	576	36	533	276
<b>Total</b>	<b>7 307</b>	<b>5 409</b>	<b>13 513</b>	<b>7 249</b>	<b>21 787</b>	<b>19 804</b>

Source: based on table

Table 6 indicates expenditures on the sub-program level; Potable water sub-programme had the biggest portion of disbursed funds compared to other sub programs for instances in 2005, 92 % of the funds were actually disbursed. There is substantial allocation to sanitation program but the problem is that little attention is considered in terms of knowing what was really achieved with the funds, in other words little information on sanitation is available. Water resource management is also increasing meaning that capacity to manage water and sanitation infrastructure is also increasing. Only 0,06% of the funds executed were for the management support, which include salaries and operations, there is need to increase these funds in future.

Another important issue is that, the integration of recurrent and development budget is noticed at this level. In the national budget document, the development project for the sector is listed on the same sub-programs defined in the recurrent budget. Some of the concerns raised are that recording of donor activities is often inaccurate hampering donor harmonisation and a comprehensive view of activities in the sector.

There is also a problem of internal coordination between MINECOFIN and the technical ministries about overlapping in the project data. The solution to these concerns is through continued donor harmonisation and coordination, which needs to be further strengthened by same reporting formats, improved data collection and sharing of information and interpretation.

## 6.2 Sector development budget compared to other sectors

The sector is compared to other priority social sectors namely health, education, water and sanitation, energy sector. The purpose is to analyse development trends for water and sanitation sector in relation to other sectors. The table below shows what was actually allocated and realised in the development budget in sectors.

**Table 7: Sector development budget (millions RwF) 2003-2004**

	2003		%	2004		%
SECTOR	Planned	Actual		Planned	Actual	
Health	3 113	3 054	98	7 473	6 546	88
Water and sanitation	4 530	2 315	51	5 161	3 138	61
Education	7 796	7 946	102	8 852	4 234	48
Energy	4 145	445	11	3 697	232	6
<b>TOTAL</b>	<b>19 584</b>	<b>13760</b>	<b>70</b>	<b>25 183</b>	<b>14 150</b>	<b>56</b>

Source: CEPEX/ MINECOFIN

*Notes: This sector allocations and actual disbursement are extracted from CEPEX annual reports and are not related to the numbers in the above tables.*

Table 7 indicates that the performance of the development budget for the sector has improved in comparison with other sectors. The trend suggests that in recent years the utilisation of the development budget increased by 22% in 2004 from 17% in 2003 of what was spent in the four sectors. This is because water and sanitation is now a priority programme for the government

Unfortunately, by the time of the review, the final project execution report for 2005 was not yet out for use, however, from the data provided by CEPEX water and sanitation sector in 2005 actual expenditures for development budget shows that (RWF 8,8 billion) was spent in the development project of the water and sanitation sector, that is 7.2% of the total spent (RWF 121 billions) in the 14 government sectors.

### 6.3 Donor Agencies

From the above table external financing is made of water and sanitation projects funded by different donors. Donors have also supported and provided technical assistance to the water and sanitation sector. The principal bilateral donors that intervene in the sector are Germany, Austria, Belgium and Japan. Multilateral donors include: the World Bank, FIDA ADB, ABEDA, RFA, UNICEF and UE. The Annex highlights donor financial conventions in different currency domination. Nevertheless, table 8 indicates the progress on how these committed funds by donors has been utilised under specific projects and programmes.

**Table 9: Project disbursement and realisation 2003-2005**

Projets		2003			2004			2005		
		Planned	Actual	%age	Planned	Actual	%age	Planned	Actual	%age
8 ex communes around Kigali	RFA	1093	1085	99	1494	1370	92	667	731	110
AEPa in small centers of Gikongoro	Autriche	476	0	0	477	10	2	335	75	22
PGNRE	IDA	115	5	4	545	26	5	407	155	38
Bugesera Karengye	UE	976	16	2	1160	10	1	1865	2689	144
4 AEP in rural areas	UE	976	0	0	0	0	0	0	0	0
AEPE of Kigali	BAD	0	0	0	0	0	0	1511	209	14
PNEAR	BAD	0	0	0	0	0	0	1135	77	7
PEAMR	IDA	832	716	86	5264	743	14	7070	3693	52
AEP Butare	BADEA	677	170	25	1389	1131	81	607	1643	271
technical support	BADEA	47	47	100	47	47	100	12	12	100
PDRCIU	FIDA	95	95	100	0	0	0	0	0	0
Ubedehe	UE	0	0	0	0	0	0	0	73	0
New water sources and extension	PNUD	0	0	0	144	144	100	0	0	0
competitiveness project/WB	IDA	0		0	0	0	0	1379	1379	100
WES	UNICEF	230	182	79	29	0	0	0	0	0
<b>Total</b>		<b>5517</b>	<b>2316</b>	<b>42</b>	<b>10549</b>	<b>3481</b>	<b>33</b>	<b>14988</b>	<b>10736</b>	<b>72</b>

Source: CEPEX/MINECOFIN

The donor financial support to the country flows after a convention is signed between the government and the donor that is providing the support in the sector. The Ministry of Finance and Economic Planning on behalf of the Government sign conventions.

According to table 8, donor disbursement increased progressively. In 2003 to 2005, funds more than tripled from 2,316 billion RwF to 10,736 RwF in 2005, this is due to increased absorption capacity and donors have confidence in the

governance systems. This is evident since in 2005, Arab Bank for Economic Development in Africa disbursed 271% for water infrastructure rehabilitation and works in Butare and European Union disbursed 144% for Bugeresu Karengu projects, this was utilised for connection extensions in Ngenda district. Overall, FRA actual disbursements were realistic and timely, 99% in 2003, 92% in 2004 and 110% in 2005.

However, the sector is affected by the utilisation gap, which is the gap between allocations and actual expenditures; evident from the above table is that in 2004 European Union spent 1% for Bugeresu Karengu project which may be attributed to delays in finalisation of project feasibility studies and low quality documents in tendering processes.

The problem also witnessed during data collection is that there is a gap and no correlation between CEPEX data and project own data because annual execution reports from CEPEX misses out disbursements spent by projects. The remedy in this case is increased coordination in terms of timely reporting and flow of information between CEPEX and donor projects.

#### **6.4 Financing opportunities noticed**

During data collection, some partners in the water and sanitation sector mentioned their future plans in terms of financing and area of intervention. The Japan international development agency (JICA) carried out a feasibility study about the sector and has allocated an indicative figure of \$18 million for the period 2006-2010. This financing will do the following:

- Training,
- Maintenance,
- Committee users association and
- Hygiene education.

The Belgian government signed a convention of 5.6 million euros in December 2005 for abduction of water in the Northern Province. This project will cover 600 km with three districts

Food Agriculture Organization will introduce water-harvesting techniques to address both agricultural and household needs and the major areas of intervention are:

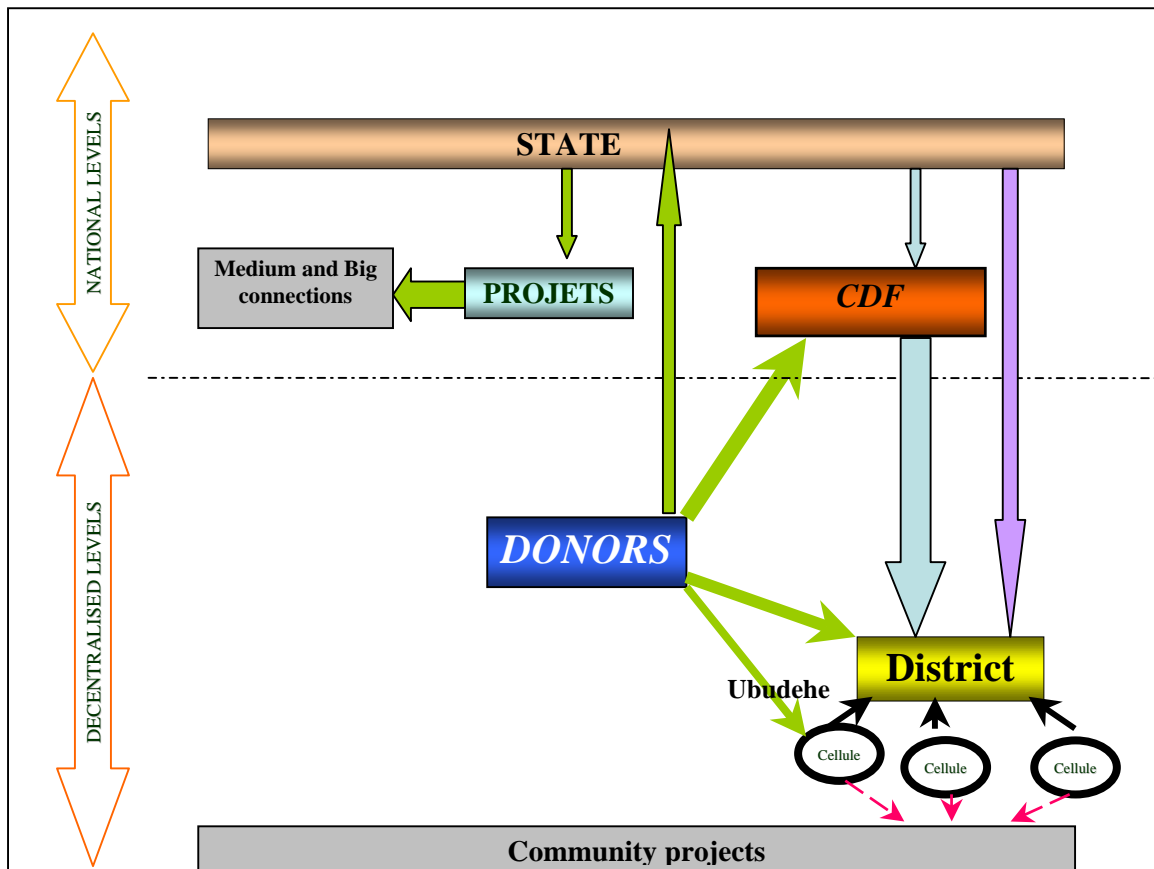
- Coordination,
- Capacity building,
- Train local district experts responsible for water projects,
- Design water systems,
- Supervision.

## **6.5 Financing institutional arrangement**

The government of Rwanda has developed its management processes to begin the delivery of ambitious programmes. It has formulated a new policy which defines guidelines for efficient use of water resources and which integrates new aspects, such as the decentralisation policy, participatory approaches, privatisation and funding through programmatic approach. To achieve this ambitious plan, the figure demonstrates the existing and emerging financing arrangement for the development of water and sanitation infrastructure.



**Chart 3: FINANCING MECHANISM FOR THE SECTOR**



**Source: MINITERE**

The figures indicate alternative finance mechanisms as follows:

- The donors continue to channel funds through the state development budget for projects that involve medium and big connections (country wide projects) that deal with major rural supply systems involving water points, treatment plant, supply chains, network of distribution pipes, public drinking fountains, wastewater and rainwater treatment networks
- The state through fiscal decentralised flows and donors provides funds through CDF for financing district small-scale sub-projects like springs, reservoirs, and infrastructure management.

- The donors can directly channel the funds to the districts since districts can solicit support but as a prerequisite district development plans must articulate water and sanitation programmes.
- Donors support UBUDEHE initiatives like the construction of latrine units, which is a community participatory process whereby groups of beneficiaries are involved in doing the work. For instance EU is instrumental in funding UBUDEHE.
- Districts can also secure funds from the state or their own source revenues to finance water and sanitation small projects that are incorporated in the development plans reflecting community needs and priorities.

To conclude this section, the issues that may influence the performance of the sector are decisions made to the extent that allocations are actually realised, which is the role of donor funding. The financing mechanism has to be supported by increased capacity at the district level by organising training for the management of the infrastructure especially with local private operators.

## 7 SECTOR PERFORMANCE AND RESULTS 2001-2005

This section examines the progress made in achieving performance indicators that are in line with the MDG's targets. It further shows how the resources have been put to use in the provision of potable water and sanitation. Basically, this section is to give light on the existing infrastructure in the sector per ex-province and also link financial resources actually disbursed to actual performance in the sector.

### 7.1 Evolution of sector performance indicators 2001-2015

The Government of Rwanda, through the department of water and sanitation assigned itself performance indicators that are in line with achieving MDG's targets of reducing the population margin that has no sustainable access to drinking water by 2015<sup>11</sup>.

Table 10 shows what has been achieved from 2001-2005 and the future targets to be pursued. Access to potable water in the rural areas increased from 41% in 2001 to 55% in 2005 while in urban areas increased to 69% in 2005. The functioning of water systems increased from 70% to 75% due to rehabilitation and proper management of the systems.

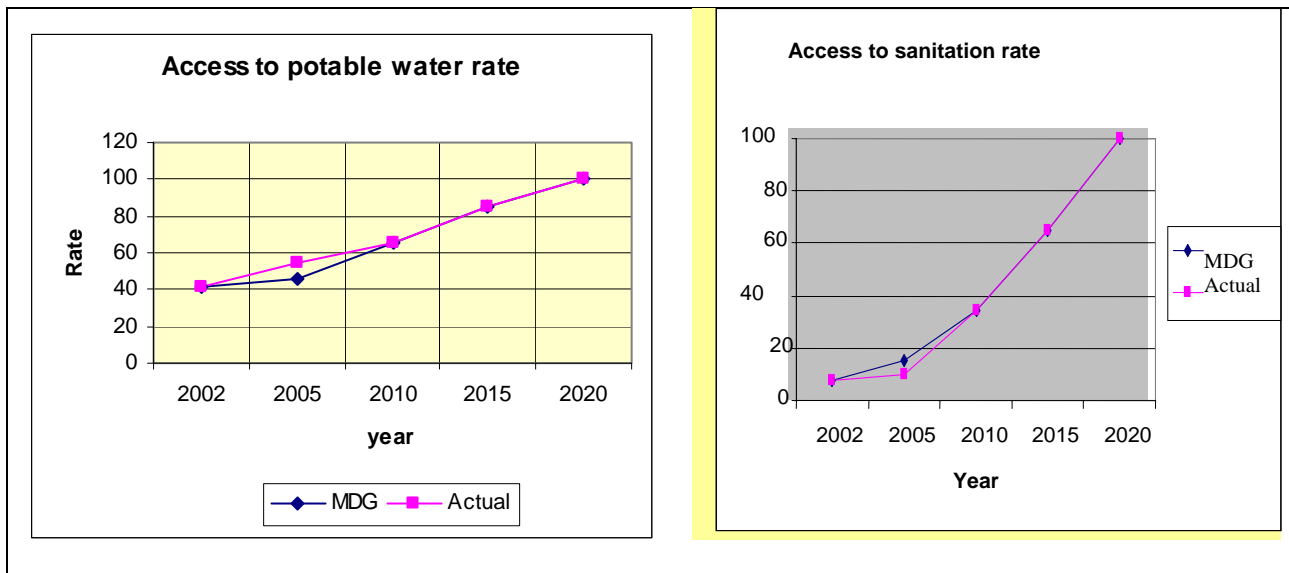
**Table 10: Water and Sanitation performance indicators**

	2001	2005	2010	2015
water and sanitation performance indicators				
% of population with access to potable water in rural areas	41%	55%	66%	85%
% of population with access to potable water in urban areas	66%	69%	75%	85%
% of functioning of existing water systems	70%	75%	90%	85%
% of systems managed by professional operators	4.4%	8.2%	25%	35%
% of the population with hygiene to sanitation in urban areas	6%	10%	34%	66%

Source: MINITERE

<sup>11</sup> Millennium Development Goal Outlook, Internet Source

The chart below clearly demonstrates the above information



## 7.2 Urban water supply and sanitation

The performance of ELECTROGAZ in the urban water sector still needs more attention compared to other African water utilities. The production capacity still needs to be leveraged to satisfy the urban increasing population. The table below shows the performance of specific indicators

**Table 11: Performance indicators 2001-2005**

N°	ITEM	2001	2002	2003	2004	2005
1	Water production (m3) in millions	14,4	15,3	15,5	16,3	15,8
	<b>Annual change</b>		<b>6,25%</b>	<b>1,31%</b>	<b>5,16%</b>	<b>-3,07%</b>
2	Water sales (m3) in millions	7,4	8,5	8,9	9,1	10,0
	<b>Annual change</b>		<b>14,86%</b>	<b>4,71%</b>	<b>2,25%</b>	<b>9,89%</b>
3	Technical & Non technical losses	49%	55%	47%	32%	30%
	<b>Annual change</b>		<b>12,50%</b>	<b>-14,55%</b>	<b>-31,91%</b>	<b>-6,25%</b>
4	Connections (Total)	30 644	32 230	34 871	38 479	39 708
	<b>Annual change</b>		<b>5,18%</b>	<b>8,19%</b>	<b>10,35%</b>	<b>3,19%</b>
5	Revenues ( in billions RwF)	2,4	2,7	2,9	3,0	3,3
	<b>Annual change</b>		<b>12,50%</b>	<b>7,41%</b>	<b>3,45%</b>	<b>10,00%</b>

Source: water statistics division/Electrogaz.

The table 10 shows performance indicators that range from water production, water sales, technical and non-technical losses, connections and revenue turnover. It is remarkable to note that these indicators cover all systems within the urban and semi-urban areas. Water production increased progressively apart from a slight decrease in 2005, this was due to a crisis in the decrease of water levels in the country as a result of drought and environmental degradation.

However, the trends of water sales continued to increase mainly due to the decrease of water losses, technical and non-technical losses that reduced from 55% in 2002 to 30% in 2005. The appropriate measures used to address the problem are replacement of old water pipes. Turnover also increased from 3,5% in 2004 to 10% in 2005 this is attributed to tight supervision of illegal connections and debt recovery from customers.

Furthermore, the number of connections increased because of water supply outside Kigali especially in the ex-provinces of Kigali Ngali, Gisenyi, and Ruhengeri but this is still weak compared to the demand. Accessibility to water systems expressed by pipe concentration also increased. Around 20% of water production is outside Kigali. Water production in 2005 decreased to 15,8m<sup>3</sup> millions from 16,3m<sup>3</sup> millions and yet the sales increased by 10% in the 2005 because ELECTROGAZ reduced the quantity of water that was supplied to Ruhengeri due to breakdown of old water pipes.

Generally, the majority of the urban population pays substantially more for water than the ELECTROGAZ average rate; water is sold to the standpipe operators at a flat rate of 200 RwF per cubic meter and resold to the final users. There is no control over the prices that stand pipe operators charge. The normal price charged for 20 liter jerrycan at standpipes within Kigali is 20 RwF which is high for the poorest society because they do not have safe alternative sources rather than use standpipe water, paying almost three times the amount that wealthier households pay for water to meet essential needs.

However, the current tariffs are below the cost of treatment and do not allow proper operation and maintenance of the facilities, tariffs must reflect the costs associated with operations and maintenance to insure sustainability of services. Therefore, there will be need for price increases, although the poor must be supported through a tariff structure. Significant proportion of urban consumers can afford to pay more for water services giving the possibility for water tariffs to be in line with production, maintenance and rehabilitation costs<sup>12</sup>.

The performance of urban water sub-sector is faced with the following challenges:

- a) Oldness of production infrastructure, many of them are more than 20 years old but what is important is maintenance and quality of pipes,
- b) Lack of appropriate computer system in customers management,
- c) Environment degradation which affects production capacity,
- d) Tariffs of water do not cover the total cost and ELECTROGAZ receives minimal government subsidies,
- e) Uncertainty of investment to renovate water systems in order to respond to the demand,
- f) Energy crisis which causes irregularity of water services,
- g) Water shortages in many areas which degrades the quality of water services,
- h) Bureaucratic tendencies for customers to have water connections.

Recently, the capacity production of Kigali was increased by 16000m<sup>3</sup>/per day with the construction of 14 new wells, which additionally served about 39. 000 persons in the peri- urban areas of Gacuriro, Kinyinya, Remera and Karaba.

There needs to be a remarkable improvement pertaining to urban sanitation because there are no specific policy measures on sanitation which is witnessed by limited piped wastewater and inadequate storm water sewerage system. In some urban settings, there is a kind of drainage system known as “ Ruhurura”

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<sup>12</sup> Millennium development goal, access to water supply and sanitation, Country status overview, Rwanda

that pose a serious health threat to the population living around. Therefore, the government needs to scale up sanitation programmes by specific policy initiatives, carry out supervision and control level of the contamination before its disposal. These programmes and policies will protect a significant and growing proportion of the urban population that lacks access to adequate sanitation.

### 7.3 Rural water supply and sanitation

As earlier mentioned in the introduction part, there is a small number of the rural population that benefit from the main household supply or yard tap, the entire population rely mostly on communal water sources such as wells, springs, and stand-pipes. The table below highlights water and sanitation infrastructure that exist in the rural and semi urban areas.

**Table 12: Water infrastructure in rural and semi urban 2001-2005**

<b>Ex province</b>	<b>Popn. 2002 Census</b>	<b>Rural piped systems</b>	<b>Taps</b>	<b>connections</b>	<b>Protected sources</b>
Butare	722 616	63	585	3 206	2 512
Byumba	712 372	103	930	1 149	1 575
Cyangugu	609 504	59	634	1 482	1 388
Gikongoro	492 607	43	418	897	1 481
Gisenyi	867 225	121	985	3 029	1 918
Gitarama	864 594	104	1 048	2 492	3 262
Kibungo	707 548	56	520	1 969	387
Kibuye	467 745	85	772	784	2 696
Kigali Nagali	792 542	65	912	375	906
Ruhengeri	894 179	103	806	1 757	2 430
Umutara	423 642	19	434	106	113
<b>TOTAL</b>	<b>7 554 574</b>	<b>821</b>	<b>8 044</b>	<b>17 246</b>	<b>18 668</b>

Source: Water and sanitation department/MINETERE.

Water infrastructures are spread out in urban and rural areas, 57% of the population use these infrastructures. Table 11 indicates that ex-province of Butare has the highest number of connections about 18% of the total connections which is attributed to rehabilitation, works and extensions carried out by the Arab Bank for Economic Development in Africa.

The sector realized the following physical infrastructure in the rural areas in 2005, 25 water and sanitation systems were rehabilitated, 59 forages constructed, 1800 water sources managed, 120 water reservoirs constructed and 600 public latrines were constructed.

According to PRSC3 trigger for water and sanitation sector of management of water piped systems, the sector has professionally managed water piped systems. 8% of the 830-piped water are professionally managed and due to extension sensitization program supported by WSP this is likely to increase the number of management contracts signed between districts and local private operators. Functionality of the rural water systems has increased from 70% to 75% from 2001 to 2005 because of facility rehabilitation and management.<sup>13</sup>

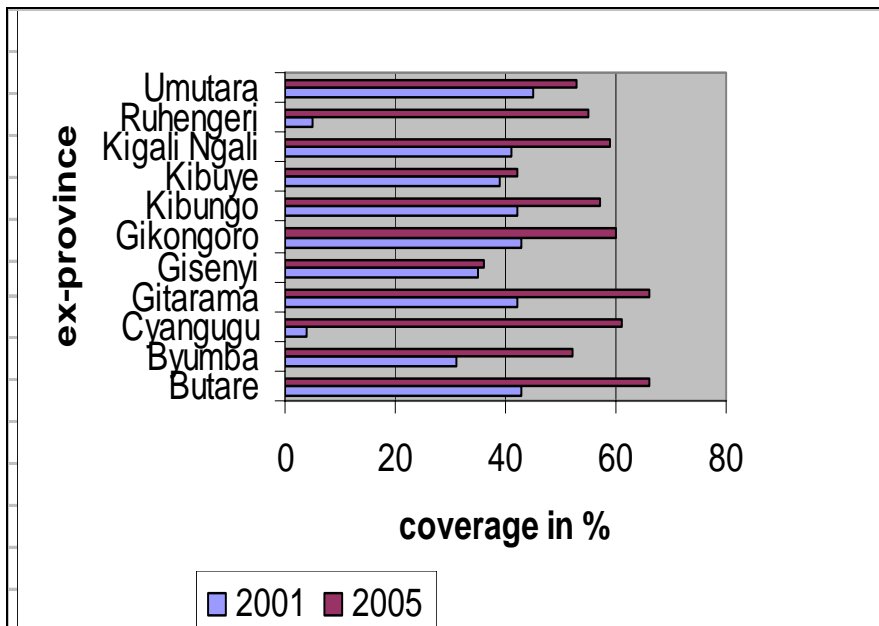
These infrastructures covered about 1 million persons. The access to potable water therefore, increased from 41% in 2002 to 55% in 2005 in the rural areas while in the urban areas access to potable water shifted from 66% to 69%. Access to sanitation shifted from 8% in 2004 to 10% in 2005. It is also important to indicate the evolution of coverage in terms of beneficiaries that use these water infrastructures

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<sup>13</sup> World bank mission report, 2006



**Chart 4: Evolution of coverage in ex-province 2001- 2005**



Source: Water and sanitation department/ MINETERE

As it is indicated in the chart, Butare and Gitarama, ex- province leads in terms of the population that has access to potable water. Ex-province of Cyangugu and Ruhengeri observed a big shift in terms of coverage due to the fact that projects of PEAMR, WES and OMS invested in the area for instance OMS developed 40 sources of water. These investments covered a total of 115, 291 persons in Cyangugu.

The actual sector expenditure is also aligned to performance and outcomes. Table 13 shows what was achieved with the actual resources spent in the sector in relation to coverage rates in both urban and rural areas from 2003 to 2005.

**Table 13: Sector actual expenditure compared to outcomes 2003-2005**

	2003	2004	2005	Total
Total expenditure of the sector( million Rw F)	5 409	7 249	19 804	32 462
Additional population served in rural areas	200 000	167 000	598 000	965 000
Additional population served in urban areas	NA	NA	95 700	95 700
<b>Total population served</b>	<b>200 000</b>	<b>167 000</b>	<b>693 700</b>	<b>1 060 700</b>

Source. MINTERE

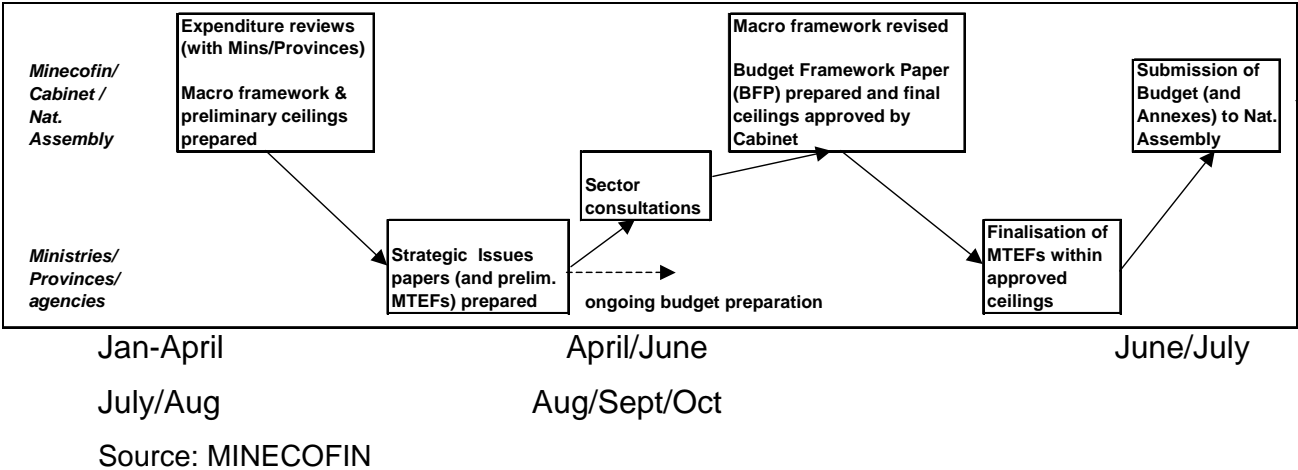
## **8 THE GLOBAL BUDGET PROCESS AND THE MTEF**

The Medium term expenditure framework is an on-going reform, the purpose is to create a context of policy and resource predictability ensuring that flow of funds are timely to allows budgets to be executed. In 2000 the government of Rwanda started full implementation of the budgetary reform basically to widen the traditional annual focus on the budget to a more medium term perspective. The introduction of the budget reform was envisaged to be having the following objectives:

1. To create a predictable and consistent national policy and budget framework, within which line ministries are assured of the budgetary resources which will be made available to them and fully informed of the policy goals to be achieved with those resources;
2. To introduce an output focus into budget preparation and execution, such that budgets are always reviewed and monitored with respect to outputs and outcomes;
3. To improve financial management and accountability so that budget execution is consistent with budgetary appropriations;
4. To develop a comprehensive, integrated budget which captures all public expenditures within an integrated format where Development and Recurrent budgets are considered together.

Rwanda started developing sector strategies in 2002 and this principle was endorsed at the third Rwanda Development Partners' conference in November 2003. Today, the country has a set of fourteen sectors adopted based on the modification of the IMF GFS listing of the ten 'functions' of Government.

Figure 1 : Integrating water and sanitation sector into the MTEF processes



With the MTEF, the Government of Rwanda is behind in the determination of sectoral ceilings. However all government institutions involved in the water and sanitation programmes receive resources through the following MTEF framework.

**Stage 1**

The Ministry of Finance and Economic Planning (MINECOFIN) makes a review of expenditure performance of the overall resource framework and determines preliminary expenditure allocation based on a macro assessment of resource availability and government priorities for the next three-year cycle.

**Stage 2**

MINECOFIN will provide line ministries and other government agencies with the budget call circular, which is an official document with guidelines on the budget preparation for the period in question. The water and sanitation sector, government institutions are provided with the preliminary budget ceiling from which to determine expenditure programmes that are output oriented.

### **Stage 3**

This involves the writing of the strategic issues paper and the purpose is to raise the key issues/constraints for each policy objective and to describe the actions needed to resolve them. These issues will form the basis of the sector consultations that are carried out every year.

### **Stage 4**

The stage that follows is the compilation of all the issues raised in the sector consultations that feeds to the budget framework paper to be presented to cabinet. The objective of BFP is to set out the affordable resource envelope over the medium term and clarify the costs of the strategic policy options; and the cabinet approves expenditure allocations, which are distributed to government departments for the finalisation of their budgetary submissions.

### **Stage 5**

The draft budget is submitted to parliament for consideration and on 5<sup>th</sup> October as the constitution oblige, the Minister of Finance and Economic Planning official presents the budget to the public in parliament for approval.

### **Stage 6**

Finally, in November officials from line ministries and government agencies present their constraints encountered in the pervious year and budget programmes for the coming fiscal year to the budget parliamentary committee which have the mandate to change the vote in consultation with the minister in charge of finance.

The implication for the sector integration within the MTEF processes is basically for budget allocation decision-making. The sector needs to follow closely the available resources that are determined in the budget call circular to match sector strategy and activities with the policy, objectives and targets. Stage 3 and 4 are important for the sector to clearly articulate sector policies, strategies and programmes in the strategic issues paper, which will be the basis for the sector consultation conducted by MINECOFIN. Finally, the sector planning should be aligned to the national calendar to enable timely submission of policy documents as requested by MINECOFIN.

### **8.1 Budgeting process in DEA**

MINITERE also is part of the MTEF process; in 2002 MINECOFIN initiated training workshops. In that process, water and sanitation department formulated programmes and sub-programmes. Water and sanitation expenditures in 2005 are classified under water and sanitation programme. Within the programme, there are 4 sub programmes known as management support, sanitation, policy and laboratory.

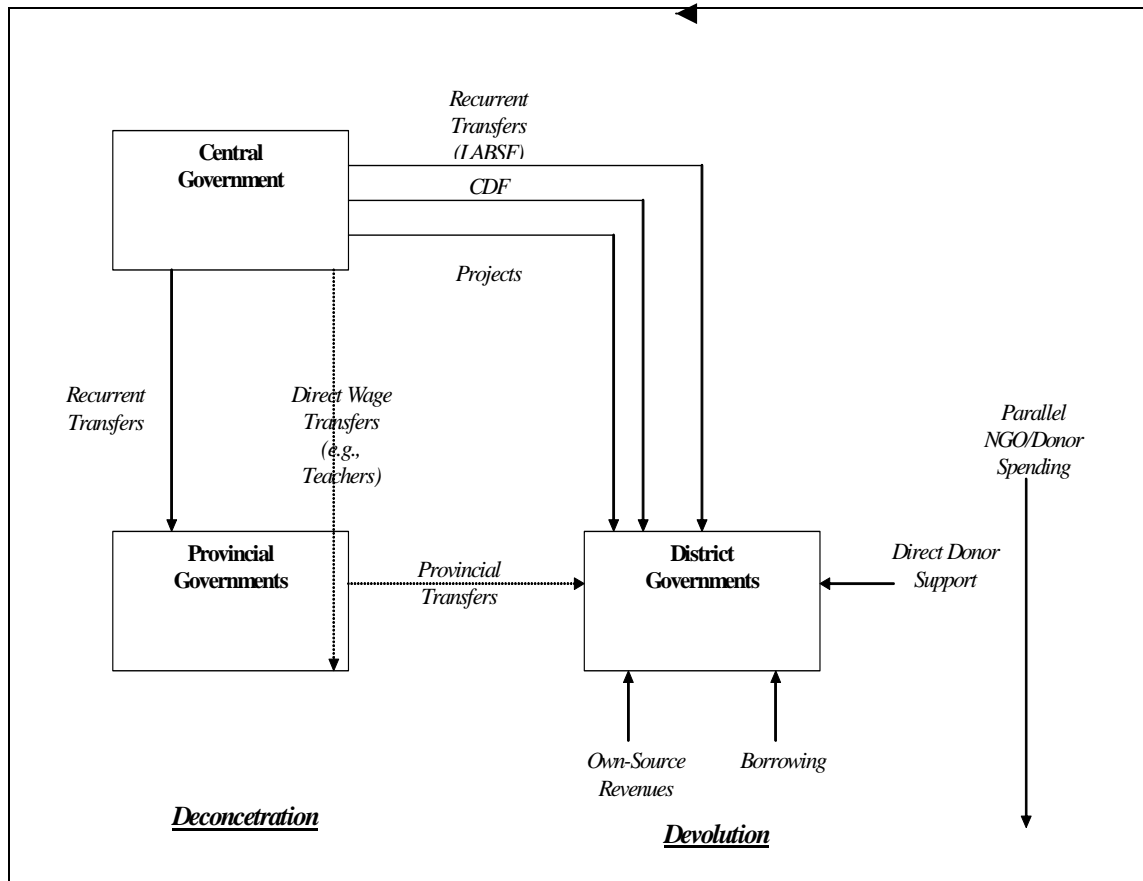
However, the sector is facing a problem of capacity in the budget preparation process. Budget monitoring and execution of projects assignments are left to an international expert providing technical assistance to the directorate and there is no national counterpart to learn on the job, the sustainability of this process is therefore at risk once the consultant contract expires. Strong argument for the sector for future additional resources in the budget support framework will be reflected in strategic issues paper prepared annually which is the basis for sector consultation that convenes in June at MINECOFIN. Therefore, there has to be continued capacity to articulate clearly the priorities and costing of the sector in the strategic issues paper.

## **9 Decentralisation aspect in water and sanitation sector**

In May 2000, the government of Rwanda embarked on the implementation of the decentralisation policy with the objective of empowering the population to fully participate in decision making at the local level. Currently, the decentralisation process is still ongoing which is witnessed by recent restructuring of the country. Rwanda is now divided into 4 territories, Kigali City inclusive, 30 districts and municipalities and 416 sectors.

In order for the policy to work, it was accompanied by financial arrangement to support the local authorities to delivery services to the population. Currently, decentralised fiscal flows are legally mandated. The Law No: 33/2003 sets the total of the local authority budget support between 3% and 5.3% of the national budget, the reason being that this allocation was insufficient since it was not based on actual expenditure requirements. Another type of central allocation is the Common development Fund which is regulated by the law No: 20/2002 which states that CDF should at least receive 10% of national revenue mobilisation of the previous year and at the same time receive additional transfers from donors.

**Figure 2 : Fiscal decentralized flows**



In reference to figure 2, water and sanitation sector have received funds through the same channels to finance water projects in local districts that shows that decentralisation policy has advanced in implementation of programmes at local level through community participation. The local communities participate in implementation of projects, while the monitoring and supervision, is done by Common Development Fund institution, HIMO and UBEDEHE.

The actual expenditure by the above institutions in financing water and sanitation projects are as follows: Water and sanitation project (PEAMR) spent 4 billion RwF, CDF actual disbursement 2.1 billion, HIMO spent 155 millions and UBEDEHE 155 million. With these funds HIMO constructed 3 water sources in NDIZA district in ex-Gitarama, marshland reclamation in Kanyonyomba area in the ex-Umutara Province. UBEDEHE supported rural water and sanitation



projects in the ex- Province of Butare, Umutara, Gisenyi, Kigali-Ngali, Kibungo and Ruhengeri.

The government objective is to delegate water and sanitation infrastructure to decentralised local authorities through authorised water users associations and private professional operators, but for this objective to be realised the current decentralised structures must be improved and provided with relevant capacity. During the data collection process, it was observed that CDF lack an information database system to facilitate the extraction and analysis of relevant data, most of the data is compiled in excel spreadsheets which makes it difficult for the project managers.

Another problem, is that project managers monitor only through field visits and reports, they lack a formal monitoring system that would be able to track the linkage between financial resources, performance targets and outcomes in terms of coverage by the projects and also attributed delays in implementation of water and sanitation projects to inflexible tendering processes that hinder timely implementation of projects.

## **10 Investment requirements**

The funding needs rehabilitation of existing facilities and new investments to reach the MDG's in 2015 and ultimately the 2020 vision objective is still insufficient. Based on previous research initiatives supported by the AfDB, the Government of Rwanda estimates that 925m USD will have to be invested over the next 16 years if the country is to attain the rural water supply and sanitation targets, including 70m USD needed every year over the next three years.

An estimated amount of 750m USD will be required to address water and sanitation needs in Kigali city. The water and sanitation program for Kigali aims at cutting down water resource deficit of approximately 32,000m<sup>3</sup>/day across the city based on the current population forecast. This deficit is estimated to grow up to 100,000m<sup>3</sup>/day by 2020 unless water resources are mobilised. In the short term (2005-2007) estimated investment required is 75,26m USD and of this, 49,65m remains without financing. In the long term (2008-2020), 627m USD is required but currently without financing.

In rural areas, it is estimated that around 30% of the existing infrastructure require rehabilitation, together with the new investment an estimated amount of 925m USD, 85.42m USD is already secured representing 10% of the total amount. An amount of 839.58m USD would be needed for the rural area to achieve 2020 objective for the sector.

The tables 14 and 15 indicate the breakdown of the estimated cost by region and requirement by component.

**Table 14 Investment requirements by Region**

Regions	Water access rate	Sanitation access rate	Population supplied with water 2020	Population supplied with sanitation 2020	Investment in millions USD
South	46%	7%	1 554 751	2 489 861	197,22
East	43%	6%	2 212 257	3 062 705	265,12
North	37%	5%	1 971 556	3 034 924	246,12
West	40%	5%	1 772 812	2 574 179	216,35
					924,81

**Table 15: Breakdown by component**

<b>COMPONENTS</b>	<b>USD</b>
<b>A. Studies and Planning tools</b>	10.95
Putting in place of a planning system	1.38
Engineering and background studies	9.57
<b>B. Institutional Support and Capacity Building</b>	24.11
Capacity building at the central level	4.77
Capacity building at the decentralized level	1.90
Support to the private sector and NGOs	13.52
Training of managers and technicians	3.92
<b>C. Development of DWS</b>	626.80
Development of water infrastructure	361.05
Development of sanitation infrastructure	247.91
Support Measures	17.84
<b>D. Programme Management</b>	14.52
Programme management	4.46
Technical Assistance	10.05
Programme Total	676.37
Physical Contingencies	98.34
Price escalation	150.12
<b>TOTAL PROGRAMME COST</b>	<b>924.83</b>

Source: National Rural Water Supply and Sanitation program, October 2004.

**Table 15: Coverage targets and Investment requirements**

		2002	2005	2015 (MDG)	Add Pop. To be cover ed	Total investment requirements			Public invest. Required	Planned Public invest.
		Access	Access	Access		New	Rehab./ Replace	T o t a l		
		(%)	(%)	(%)		(M/year				
Eau	Rural	41	55	85	222	13	31	44	40	5
	Urban	66	69	85	303	24	4	28	0	0
	Total	53	57	85	459	37	35	72	40	5
San itati on	Rural	8	10	66	342	3	2	5	1	1
	Urban	8	10	66	264	4	1	5	0	0
	Total	8	10	66	483	7	3	10	1	1

Source: UNFPA/PNEAR/PAEMR/ GoR Investment plan/ GoR Policy

## **CONCLUSIONS AND RECOMMENDATIONS**

This report recommends the following actions to be taken:

### **Legal and Institutional Framework**

There is need to clarify the assignment of roles and responsibilities in the water and sanitation sector because it will help clarify the funding of activities with an aim to increase coverage and service delivery in the sector. It is observed that MINTERE should strengthen the status of district level institutions because they are closer to service users by setting up specific support program to provide some pipes, meters and equipment to identified districts willing to engage with local private operators, in order to boost the management reform and attain the target 20% of water systems professionally managed by November 2007.

### **Coordination and M & E**

In order to consolidate advances in coordinated approaches and in harmonization, the most pressing need is to define the mandate, the organizational structure, and mode of operation and the capacity requirements of the National Implementation Agency for the PNEAR. Such an agency has been established in principle and need to be defined in further details in order to take up its functions and to avoid the regression to separate project based implementation units. Improve information and M&E systems, especially with regard to investment and financial information; these are necessary if the sector is to continually assess not only adequacy of funds but also the efficiency and effectiveness with which expenditures are utilized. However, the progress in M&E is promising and should maintain its agenda to harmonize and eventually set the stage for pooled funds and budget support. The national wide sectoral M&E systems that will be defined under the planned BSAD funded study will be a key step in ensuring a coherent approach and in building technical capacity for coordinated M&E of sector realizations and results. The involvement of all key

sector partners in the oversight of this study is critical as well as the involvement of district staff.

## **Investment and Financing**

There is need to continue efforts in new investments in the sector infrastructure especially in the rural areas and also rehabilitate the existing water network since most of the urban infrastructure are old and need to be maintained and replaced by quality network. The management of the existing infrastructure should be a priority in order to achieve 25% of performance indicator by 2010. This is very important especially in the rural areas with the participatory approach of involving local communities and private operators, they should instead be trained on how to professionally manage water and sanitation infrastructure. The tendering procedures of the Donor project and National Tender Board should be provided to the contractors in the sector for quick non-objection for timely implementation of water and sanitation project.

## **EDPRSP**

The EDPRSP is an opportunity to pursue the development of the WSS sector. It should be a priority for MINTERE and the UEA to define the specific targets in terms of spending, realization and results for the four sub-sectors UW, USAN, RW, RSAN and also develop the matrix of associated measures in the three areas of:

- a) Policies and strategies and related institutional and legal framework;
- b) Capacity building and knowledge development;
- c) Investment and financing.

The present report is seen as a contribution to this process.

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**ANNEX 1: SUB-PROGRAM PLANNED AND ACTUAL EXPENDITURE 2003-2005**

Objective	Sub-programme	Source of funding	Budget 2003		Budget 2004		Budget 2005	
			Plan	Actual	Plan	Actual	Plan	actual
	Management	Internal funds	92	54	76	49	31	12
Integration of water resource management	Water resource management	Internal funds	23	19	32	10	126	121
		External funds	115	5	544	26	407	155
			138	24	576	36	533	276
Increase access to potable Water	Potable Water	Internal funds	1 743	2 336	2 809	3 073	6 437	8 029
		External funds	4 846	2 459	8 273	3 829	12 019	10 138
			6 589	4 795	11 082	6 902	18 456	18 167
Increase access to hygiene and sanitation	Sanitation	Internal funds	24	267	48	36	205	195
		External funds	461	269	1 731	226	2 562	1 154

			485	536	1 779	262	2 767	1 349
<b>Total Internal funds</b>			1 882	2676	2 946	3 168	6 799	8 357
<b>Total External funds</b>			5 422	2 733	10 548	4 081	14 988	11 447
			7 304	5 409	13 513	7 249	21 787	19 804
Execution rate in %			74%		54%		91%	

	2,003		2,004		2,005		Total		%
	Planned	Actual.	Planned	Actual	Planned	Actual	Planned	Actual	
<b>INTERNAL FUNDS</b>									
MINITERE	1,861	1,865	2,957	2,854	6,642	6,804	11,460	11,523	
MINAGRI	0	0	0	0	124	120	124	120	
MINISANTE	21	267	8	7	7	7	36	281	
MINALOC	0	544	0	307	26	1,426	26	2,277	
Province	0	0	0	0	26	18	26	18	
CDF	0	544	0	235	0	1,325	0	2,104	
HIMO	0	0	0	72	0	83	0	155	
S/T Internal flows	1,882	2,676	2,965	3,168	9,799	8,357	11,646	14,201	44%
<b>EXTERNAL FLOWS</b>									
							0	0	
- Project	5,422	2,477	10,548	3,781	14,988	10,737	30,958	16,995	
- ONG		256		300	0	710	0	1,266	
S/T External flows	5,422	2,733	10,548	4,081	14,988	11,447	30,958	18,261	56%
Total	7,304	5,409	13,513	7,249	21,787	19,804	42,604	32,462	

## ANNEX 2: FINANCIAL FLOWS TO THE SECTOR 2003 - 2005

Table 8: Total donor financing and project description

Project Name	Donors	Description	Amount	Period
<b>RURAL PROJECTS</b>				
AEP in 8 communes around kigali	KfW/Germany	Rehabilitation of AEP systems, Put in place water management structures	7,600,000€	2001-2006
Bugesera- South	KfW/Germany	Management phase of AEP	26,000,000 UC and 1,021,350€	1997-2005
Rural water and sanitation project	WB/GoR	Sub-project, connections of complex infrastructure, capacity building and management of projects	21,420,000 USD	2001-2006
Bugesera Karege	European union	Extension of connection to Ngenda	19,340,000€	2005-2006
Water, Sanitation and Environment	UNICEF	AEP Community based especially in primary schools, environmental sanitation and hygiene education	700,000 USD	2001-2006
AEP small centres of Gikongoro	Austria cooperation	Realisation of water and sanitation projects	1,900,000€	2005-2007
AEPA in rural areas of 5 ex-provinces	ADB/GoR		17,100,000 USD	2005-2008
AEP Butare	BADEA	Feasibility studies, rehabilitation works and extension	5,750,000 USD	2001-2005
AEPA in 5 district of 5 ex-province of butare	Belgium cooperation	Realisation of water and sanitation systems, social mobilisation	5,650,000€	2005-2008
<b>URBAN PROJECTS</b>				
Technical support to DUEA	BADEA	Expert to provide technical assistance	220,000 USD	2005-2007
AEPA of Kigali	ADB/GoR	Rehabilitation of AEPA systems, carry out studies, capacity building and management of projects	20,000,000 UC	2005-2007
Reinforcement of potable water in kigali ville	GoR	construction of wells along Nyabarongo river	1,400 Million RwF	2005
National water and resource management	WB	Development of human resource, legislation on water, water information systems and feasibility studies	1,015,450 USD	2003-2006

Source: Department of water and sanitation/MINITERE

### ANNEX 3 : Exécution la matrice PRSP 2005

<b>Objectif : Rationaliser la gestion intégrée et durable des ressources en eau</b>		
<b>Domaines d'action</b>	<b>Mesures prévues</b>	<b>Réalisation</b>
Cadre Institutionnel, légal et réglementaire du secteur	<ul style="list-style-type: none"> <li>• Adoption de loi de l'eau et du code d'assainissement par le parlement</li> <li>• Initiation des réformes institutionnelles au niveau national, régional et local</li> </ul>	<ul style="list-style-type: none"> <li>• Loi révisée, validé et en circuit d'adoption</li> <li>• Réformes en cours</li> </ul>
Renforcement des capacités au niveau central et centralisé	Publication de l'étude diagnostique sur les besoins en ressources humaines et programme de formation au niveau central et décentralisé	Etude a été validé par les tous les partenaires et diffusé à tous les membres du SGEA
Programme coordonné des interventions et des investissements	Révision et Actualisation du CDMT du secteur eau et assainissement 2006 à 2008	CDMT révisé et actualisé
	Élaboration du plan stratégique du secteur	Plan stratégique a été élaboré
<b>Objectif : Augmenter l'accès à l'eau potable</b>		
Coordination du secteur	MINITERE et les partenaires ont effectué une première revue du secteur AEPA en	Un groupe de suivi du secteur a été crée. Il regroupe tous les

	milieu rural	intervenants du secteur. Une première réunion du sous-groupe a été organisée en octobre 2005
Gestion durable des systèmes AEP	Mise en œuvre effective de la politique de privatisation dans moins de 4 districts au niveau des quatre provinces pilotes	Mise en œuvre effective de la privatisation au niveau de 6 ex districts. Au total environ 70 systèmes AEP sont gérés par des professionnels
Augmenter la production de la ville de Kigali	Signature du contrat pour l'augmentation de la production en eau de la ville de Kigali	Des contrats ont été signés avec une entreprise pour les travaux de reconnaissance et de formation. Ces travaux vont se poursuivre en 2006 pour atteindre une capacité de 40.000 m3/j
	Initier une étude pour la mise en place d'un cadre politique des services d'accès des pauvres à l'eau	Réalisation d'une étude pour voir comment les institutions en charge de la régulation des services eau et assainissement pourront adapter leurs méthodes et approches de régulation aux besoins des clients démunis
<b>Objectif : Intensifier l'Education à l'Hygiène et Assainissement</b>		
Assurer l'assainissement des eaux	Lancement de l'étude d'actualisation du schéma directeur d'assainissement	Etude a été attribuée

pluviales et des eaux usées	des eaux pluviales de la ville de Kigali	
Hygiène en milieu rural	Diffuser les plans et coûts types des latrines et réservoirs en milieu scolaire et communautaire	Rapport élaboré mais n'a pas été validé par les partenaires
	Sensibilisation sur les pratiques d'hygiène par l'utilisation des containers chlorés et le lavage dans les infrastructures publiques en milieu rural (84 écoles, 28 centres de santé et 25 autres)	Sensibilisation effectuée au niveau de 50 écoles, 15 centres et 80 autres)



#### ANNEX 4: Coûts Unitaires du système

Type d'ouvrage	Genre	Coût Moyen (Frw)	Coût par Capita (USD)
Systèmes Gravitaire (Base 20 Km de réseau + 20 BF pour 7000 hab)	Réhabilitation	90 000 000	25
	Construction	150 000 000	55
Système Pompage (Base 20 Km de réseau+20 BF)	Réhabilitation	160 000 000	60
	Construction	260 000 000	80
Source	Aménagement	540 000	4
	Réhabilitation	450 000	3.3
Latrine	12 portes	7 000 000	21 /ELEVE
Réservoirs	10 m3	2 500 000	

## ANNEX : 5 PRINCIPLES ADDUCTIONS D'EAU MILIEU URBAN ET SEMI-URBAIN

Titre du Projet		Capacité nominale	Période de	
			Démarrage	Couverture
AEP de la ville Kigali (Kigali I) avec 85 bornes fontaines		9,600 m <sup>3</sup> /j	Avril 1981	1986
AEP de la Ville de Butare		5,000 m <sup>3</sup> /j	Juillet 2004	2005
AEP Nyabisindu Ville de Nyanza		1,150 m <sup>3</sup> /j	Avril 1984	1989
Rénovation et extension des systèmes d'AEP des cinq centres	Kibuye	600 m <sup>3</sup> /j	Mars 1986	1991
	Rwamagana	1,200 m <sup>3</sup> /j	Juillet 1986	
	Kibungo	450 m <sup>3</sup> /j	Août 1986	
	Cyangugu	1,200 m <sup>3</sup> /j	Février 1987	
	Ruhengeri	12,000 m <sup>3</sup> /j	Février 1987	
Rénovation et extension des systèmes d'AEP des quatre centres	Gikongoro	1,600 m <sup>3</sup> /j	Août 1987	1991
	Gisenyi	10,000 m <sup>3</sup> /j	Août 1987	
	Gitarama	2,400 m <sup>3</sup> /j	Août 1987	
	Byumba	600 m <sup>3</sup> /j	Mars 1988	
AEP de la Ville Kigali (Kigali II : Phase d'urgence)		22,000 m <sup>3</sup> /j	Juillet 1988	1993